

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A structure, comprising:

a substrate; and

an antisoiling layer having a photocatalytic property-bearing, formed on at least part of its-a surface of the substrate, an antisoiling layer having a photocatalytic property,;

wherein:

the antisoiling layer comprises a titanium dioxide-based layer and an underlayer (UL) immediately beneath the titanium dioxide-based layer;

the based-on-titanium dioxide ( $TiO_2$ ) -based layer comprises titanium oxide at least partly crystallized in its-anatase form;

, wherein it includes, immediately beneath at least one  $TiO_2$  layer, an the underlayer (UL) having-has a crystallographic structure that has-assisted in the-crystallization\_of the titanium oxide, by heteroepitaxial growth in the anatase form, of the  $TiO_2$ titanium oxide-based upper layer,; and

the photocatalytic property having been acquired is obtained without any performing a heating step.

Claim 2 (Currently Amended): The structure as claimed in claim 1, wherein the underlayer (UL) ~~is-based on~~comprises a compound crystallized in a cubic or tetragonal system and having a lattice cell dimension equal to that of  $TiO_2$  crystallized in anatase form to within  $\pm 8\%$ .

Claim 3 (Previously Presented): The structure as claimed in claim 1, wherein the underlayer (UL) consists of  $ATiO_3$ , A denoting barium or strontium.

Claim 4 (Previously Presented): The structure as claimed in claim 1, wherein the underlayer (UL) has a thickness of between 10 and 100 nm.

Claim 5 (Currently Amended): The structure as claimed in claim 1, wherein:  
~~the substrate is in a form selected from the group consisting of~~ ~~consists of~~ a sheet, ~~whether plane~~ ~~having planar~~ or ~~with curved faces~~, of monolithic or laminated glass, glass-ceramic or a hard thermoplastic, ~~or else~~ ~~consists of~~ ~~and~~ glass or glass-ceramic fibers; and ~~said sheets or said fibers having, where appropriate, received at least one other a~~ functional layer ~~is optionally provided on the substrate before application of~~ ~~beneath~~ the underlayer (UL).

Claim 6 (Currently Amended): The structure as claimed in claim 5, wherein:  
~~the substrate is made of~~ ~~comprises~~ glass or glass-ceramic, ~~wherein~~; and at least one functional layer ~~subjacent to~~ ~~is provided on the substrate beneath~~ the underlayer (UL) ~~is a layer forming as~~ a barrier to the migration of alkali metals from the glass or glass-ceramic.

Claim 7 (Currently Amended): The structure as claimed in claim 5, wherein at least one functional layer ~~subjacent to~~ ~~is provided on the substrate beneath~~ the underlayer (UL), ~~the at least one functional layer comprising~~ ~~is~~ a layer having an optical functionality, a thermal control layer or a conducting layer.

Claim 8 (Currently Amended): The structure as claimed in claim 5, wherein:  
~~the substrate is made of~~ ~~comprises~~ glass or glass-ceramic, ~~wherein~~; and

~~the substrate has received a layer acting as a barrier to the migration of alkali metals from the glass or glass-ceramic, and followed by a monolayer, bilayer or trilayer having an optical functionality are formed on the substrate.~~

Claim 9 (Currently Amended): The structure as claimed in claim 1, wherein the ~~TiO<sub>2</sub> base-titanium oxide-based~~ layer consists of TiO<sub>2</sub> alone or of TiO<sub>2</sub> doped with at least one dopant selected from the group consisting of N; pentavalent cations; Fe; and Zr.

Claim 10 (Currently Amended): The structure as claimed in claim 1, wherein the ~~TiO<sub>2</sub> layer has been deposited~~ titanium oxide-based layer is formed by ~~deposition~~ at room temperature by a technique selected from the group consisting of vacuum sputtering, ~~where appropriate~~ magnetron sputtering and ~~and/or~~ ion-beam sputtering.

Claim 11 (Currently Amended): The structure as claimed in claim 1, wherein the underlayer (UL) ~~has been deposited~~ is formed by ~~deposition~~ at room temperature by a technique selected from the group consisting of vacuum sputtering, ~~where appropriate~~ magnetron sputtering and ~~and/or~~ ion-beam sputtering.

Claim 12 (Currently Amended): The structure as claimed in claim 3, wherein: ATiO<sub>3</sub> ~~has been~~ is deposited at room temperature by a technique selected from the group consisting of vacuum sputtering, ~~where appropriate~~ magnetron sputtering and/or and ion-beam sputtering, using ceramic targets comprising at least one member selected from the group consisting of ATiO<sub>3</sub>, ATiO<sub>3-x</sub>, wherein 0 < x < 3, and ATi;  
~~the supply being~~ deposition is carried out using a radiofrequency supply and ~~the~~ an atmosphere ~~in the sputtering chamber containing~~ of only argon only when ATiO<sub>3</sub> is used as

target, or using the supply being a DC or AC supply and the reactive an atmosphere in the sputtering chamber containing of oxygen and argon when ATi or ATiO<sub>3-x</sub> is used as target; the TiO<sub>2</sub> layer having been is deposited after the underlayer (UL) in a following step in the same sputtering chamber.

Claim 13 (Currently Amended): The structure as claimed in claim 1, wherein:

the structure TiO<sub>2</sub>-layer is coated with comprises at least one overlayer formed over the titanium oxide-based layer; and

the overlayer comprises of a material that does not disturb the antisoiling function of the TiO<sub>2</sub>-titanium oxide-based layer.

Claim 14 (Withdrawn): The application of ATiO<sub>3</sub> to the formation of a layer for assisting in the crystallization, in the anatase form by heteroepitaxial growth, of an optionally doped ATiO<sub>2</sub>-based upper layer, A denoting barium or strontium.

Claim 15 (Withdrawn): A process for producing a structure as defined in claim 1, wherein an ATiO<sub>3</sub> underlayer, A denoting barium or strontium, is deposited on a substrate made of glass or glass-ceramic or hard polycarbonate-type plastic, of the sheet type, or on glass or glass-ceramic fibers, followed by an optionally doped TiO<sub>2</sub> layer, at least one overlayer of a material not disturbing the antisoiling function of the TiO<sub>2</sub> layer then possibly being deposited where appropriate on this TiO<sub>2</sub> layer.

Claim 16 (Withdrawn): The process as claimed in claim 15, wherein the ATiO<sub>3</sub> underlayer (UL) and the TiO<sub>2</sub> layer are deposited in succession at room temperature by vacuum sputtering, where appropriate magnetron and/or ion-beam sputtering, in the same

chamber, the targets used for depositing said underlayer selected from the group consisting of ATiO<sub>3</sub>, ATiO<sub>3-x</sub>, wherein 0 < x ≤ 3, and ATi, the supply being a radiofrequency supply and the atmosphere in the sputtering chamber containing only argon when ATiO<sub>3</sub> is used as target, the supply being a DC or AC supply and the reactive atmosphere in the sputtering chamber containing oxygen and argon when ATi or ATiO<sub>3-x</sub> is used as target; and the target used for depositing the TiO<sub>2</sub> being Ti or TiO<sub>x</sub>, where 0 < x < 2.

Claim 17 (Withdrawn): The process as claimed in claim 16, wherein no heat treatment step is carried out after the TiO<sub>2</sub> layer and, where appropriate, the overlayer(s) have been deposited.

Claim 18 (Withdrawn): The process as claimed in claim 15, wherein the coating of a glass or glass-ceramic substrate is carried out, wherein, before the underlayer (UL) has been applied, at least one layer forming a barrier to the migration of alkali metals present in the glass or glass-ceramic is deposited on the substrate, an annealing or toughening operation then possibly being carried out, after the TiO<sub>2</sub> layer and, where appropriate, the overlayer(s) have been deposited, at a temperature of between 250°C and 550°C in the annealing operation, and at a temperature of at least 600°C in the case of the toughening operation.

Claim 19 (Withdrawn): The process as claimed in claim 15, wherein before the ATiO<sub>3</sub> underlayer (UL) has been applied, at least one functional layer selected from the group consisting of layers having an optical functionality, thermal control layers and conducting layers is deposited, said functional layers being advantageously deposited by vacuum sputtering, where appropriate magnetron and/or ion-beam sputtering.

Claim 20 (Currently Amended): A single or multiple glazing comprising, comprising respectively, one or more than one the structure as defined in of claim 1, wherein: both the TiO<sub>2</sub>-based antisoiling layer and its associated the underlayer (UL) being are present at on at least one of its an external facesface of the glazing; and the a face of the glazing not provided with the antisoiling layer and the underlayer (UL) faces not having the TiO<sub>2</sub>-based antisoiling layer and its associated underlayer possibly including optionally comprises at least one other additional functional layer.